

Leucothoe laurensi, a new species of leucothoid amphipod from
Cuban waters (Crustacea: Amphipoda: Leucothoidae)

James Darwin Thomas and Manuel Ortiz

(JDT) NHB Stop 163, Smithsonian Institution, Washington, D.C. 20560, U.S.A.;
(MO) Centro de Investigaciones Marinas, Universidad de la Habana, La Habana, Cuba

Abstract.—*Leucothoe laurensi* is described from the south coast of Cuba. It is distinguished from other leucothoids by a transverse palm and blade-like extension of article 6 in male and female gnathopod 2. *Leucothoe laurensi* ranges from Ascension Island to the central Caribbean, including the Carolinas to the Florida Keys.

Leucothoe Leach, 1814

Leucothoe Leach, 1814b:432.—Leach, 1814a:403.—J. L. Barnard, 1974:79.—Ledoyer, 1978:291.—Lincoln 1979:172.—Barnard & Karaman, 1991:410-411.

Leucothoe laurensi, new species
Figs. 1-2

Diagnosis.—Male and female gnathopod 2 with nearly transverse palm and terminal blade-like process on article 6; maxilliped, inner plates triangular, separate, outer plates with sclerotized medial margin, reaching one-third along palp article 1; palp of maxilla 1, 2-articulate, inner plate with terminal seta; lower lips lacking inner lobes; posteroventral corner of epimera 3 rounded; telson elongate, triangular.

Description.—Female, 2.1 mm, USNM 266424. Article 3 of antenna 1 about one-half as long as article 1; rostrum small; anteroventral margin of head rounded; eye with 19 compact ommatidia; coxa 1 slightly smaller than 2-4, broadly rounded anteriorly, coxae 2-3 subtruncate, ventral margins with few short setae, posteroventral margin of coxa 4 produced into broad lobe, excavate dorsally, coxae 5-6 bi-lobed, 5 larger than 6, posterior lobe of 6 the deepest, coxa 7 small, evenly rounded.

Mandibles, right and left raker row with

8 spines, incisors broad, untoothed, left lacinia mobilis a stout spine, palp article 1 short. Lower lip lacking inner lobes, mandibular lobes well developed. Inner plate of maxilla 2 small, bearing a single apical seta, outer plate with 9 spines, palp 2-articulate. Maxilla 2 shortened, inner plate with 5 apical and 1 subapical setae; outer plate with 3 apical setae. Inner plates of maxilliped small, separate, each plate with 1 apical and 2 lateral stubby spines; outer plates moderately developed, reaching one-third along inner margin of palp article 1, inner margin sclerotized and sinuous, with a single large apical spine and seta; palp of normal proportions, 4-articulate.

Gnathopod 1 of stout form, posterior margin of article 6 finely serrate, dactyl long, curved, reaching point on carpus near insertion of long seta. Article 6 of gnathopod 2 with blade-like distal process; palm transverse, posterior margin of palm reaching a point 82 percent along anterior margin of propodus, bearing a series of embedded, truncate spines; propodus, medial margin with row of feeding setae that extend into the blade-like extension; inner margin of dactyl finely serrate; carpus reaching end of palm, distal margin with series of rounded cusps.

Pereopods 3-4 similar, bases linear. Pereopod 5 missing. Pereopods 6-7, bases expanded posteriorly, pereopod 7 with small

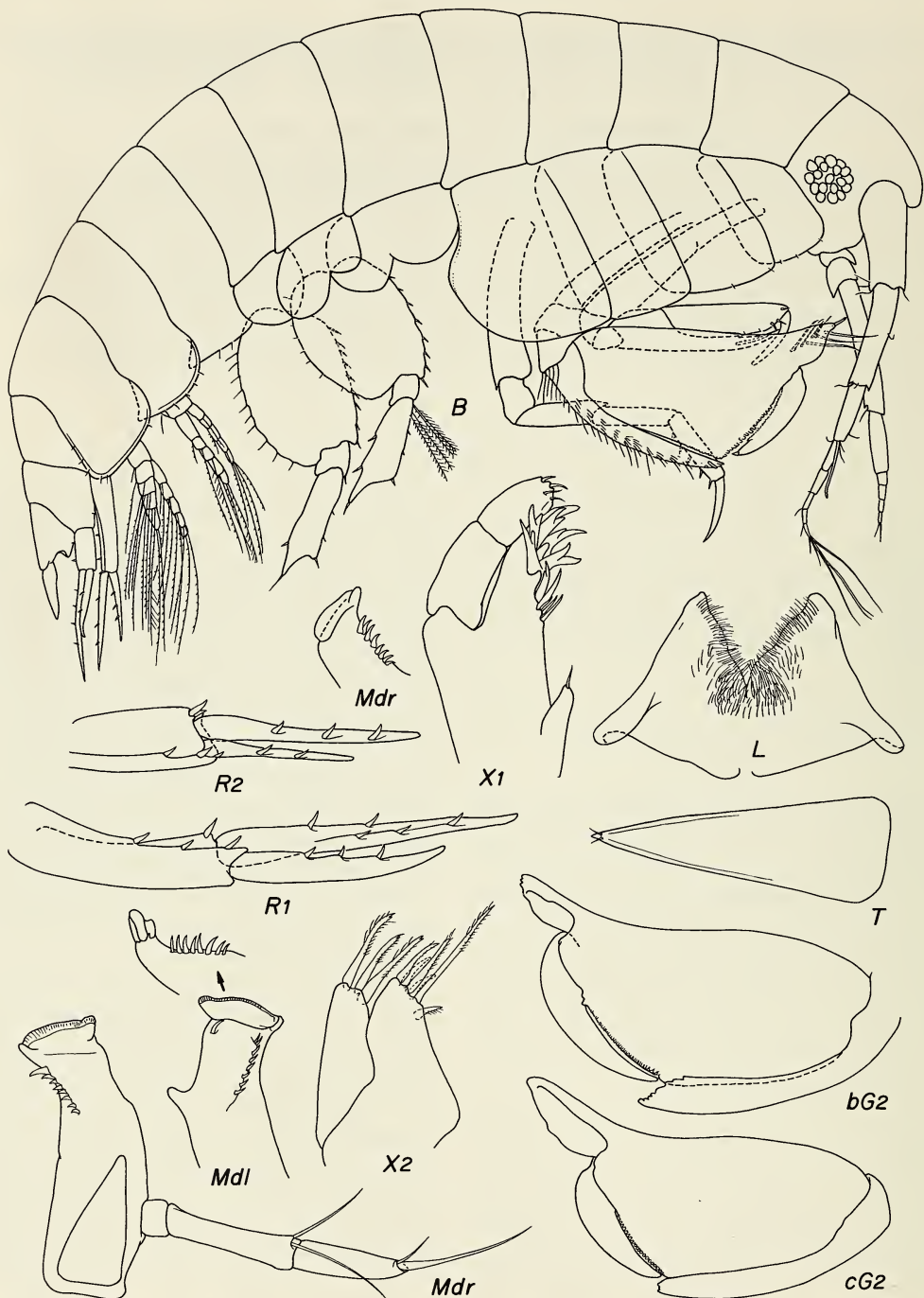


Fig. 1. *Leucothoe laurensi* n. sp., figures without lower case letter to left of each caption = holotype female "a", 2.1 mm; Capital letters in figures refer to the following parts; B = body, G = gnathopod, L = lower lip, M = mandible, P = pereopod, R = uropod, T = telson, X = maxillae, XP = maxilliped. Lower case letters to the left of capital letters refer to specimens cited in legends and voucher material in the text. ("b" = female, "c" = male) Lower case letters to the right of capital letters refer to the following adjectives, r = right, l = left, y = enlarged.

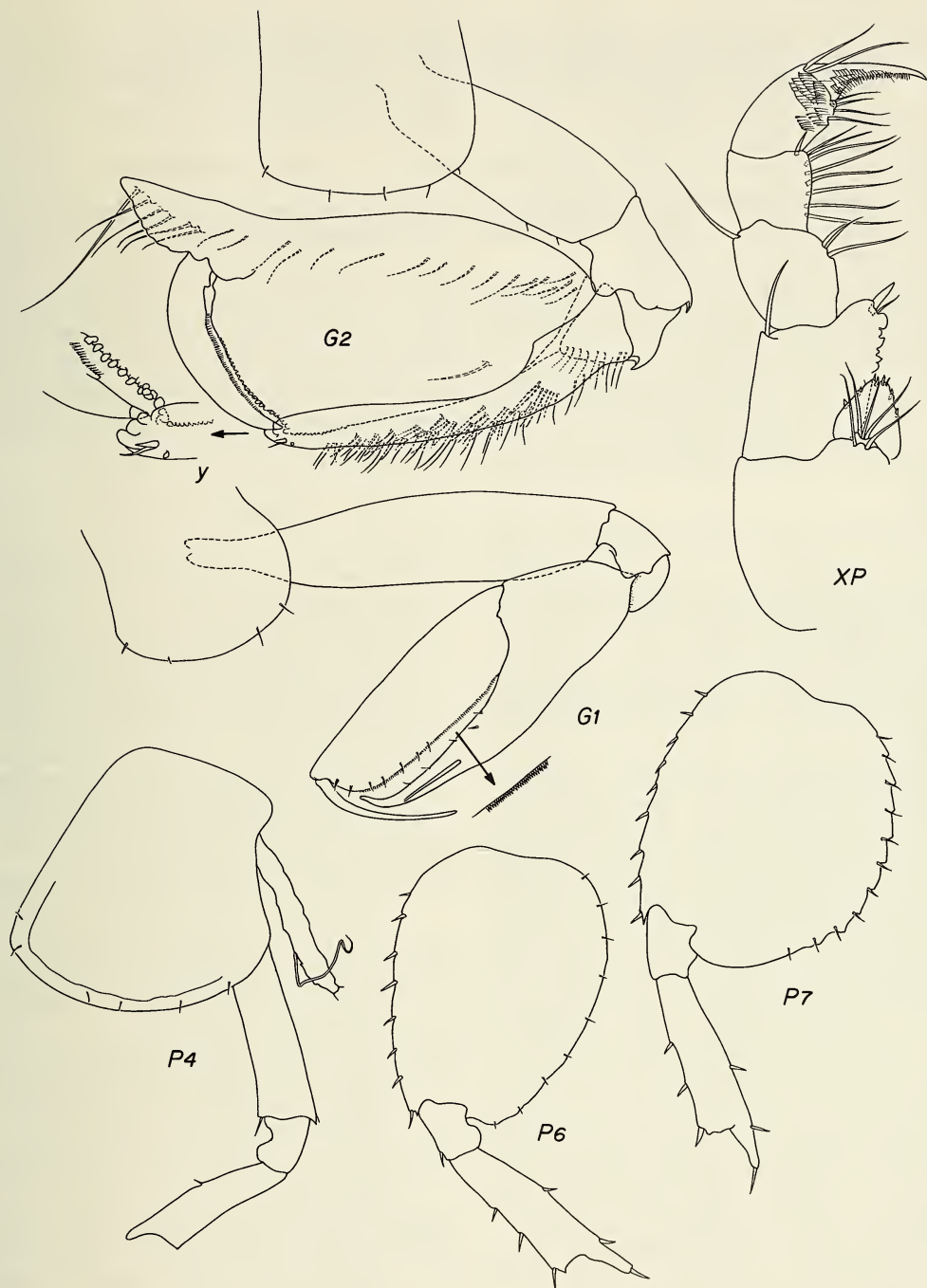


Fig. 2. *Leucothoe laurensi* n. sp., holotype female. Abbreviations as for Fig. 1.

ventral lobe. Uropods 1–2, outer ramus slightly shorter than inner, uropod 3 missing. Telson triangular, elongate. Gills simple, ovate. Oostegites narrow.

Description of male.—Similar to female except for article 6 of gnathopod 2, palm slightly more oblique, reaching only 64 percent along anterior margin of propodus (versus 82 percent in female).

Holotype.—Female “a”, 2.1 mm, United States National Museum, USNM 266424; paratype USNM 266436.

Type locality.—Punta Pedernales, Isla de la Juventud, Cuba, fine sand, 50 m, M. Ortiz, collector, 24 April 1984.

Material.—Two specimens from type locality.

Additional material.—Female “b” 4.2 mm, and male “c” 4.1 mm, USNM 266425; Florida Keys, Looe Key Reef, coral overhangs on fore-reef, 5 m, J. Thomas, collector, 22 May 1982.

Etymology.—Named for the preeminent amphipodologist J. Laurens Barnard, 1928–1991.

Relationship.—This species is close to *Leucothoe euryonyx* (= *L. quadrimana* Ruffo, 1946, Ruffo Schickel 1967; and *L. dentitelson* Chevreux, 1925) in having a transverse palm and terminal process on article 6 of female gnathopod 2. *L. laurensi* is distinguished by having a nearly transverse palm and terminal, blade-like process on article 6 in both male and female gnathopod 2; in having a rounded posteroventral margin in epimera 3; and in having a non-dentate apical margin in the telson. The shape of the process on article 6, gnathopod 2 also differs, being hollow and cap-shaped in female *L. euryonyx*, versus thin and blade-shaped in male and female *L. laurensi*.

Distribution.—Tropical Western Atlantic: Cuba, Florida Keys, to 50 m.

Remarks.—*Leucothoe laurensi* is unusual among leucothoids in showing minimal sexual dimorphism in gnathopod 2. Males of *L. euryonyx* have three distinct knobs on

the palm of gnathopod 2, and shortened carpal lobe. The first author has examined material attributable to *L. laurensi*, from Ascension Island and the Carolinas.

Acknowledgments

Specimens from the Florida Keys were collected under National Science Foundation grant DEB-8121128 to the first author. The second author was supported by a grant from the MacArthur Foundation, part of the Cuban-U.S. Biodiversity Program. Linda Lutz, Vicksburg, MS, inked the plates. Elizabeth Harrison-Nelson provided assistance in the lab.

Literature Cited

- Barnard, J. L. 1974. Gammaridean Amphipoda of Australia, part 1.—Smithsonian Contributions to Zoology 139:1–148.
- , & G. S. Karaman. 1991. The families and genera of marine gammaridean Amphipoda (except marine gammaroids).—Records of the Australian Museum, Supplement 13 (Parts 1 and 2), 1–866 pp. Globe Press, Melbourne.
- Chevreux, E. 1925. Amphipodes I.—Gammariens. Voyage de la Goelette *Melita* aux Canaries et au Senegal (1889–1890).—Bulletin de la Société Zoologique de France 50:278–311.
- Leach, W. 1814a. Crustaceology. Pp. 385–429 in D. Brewster, ed., The Edinburgh Encyclopaedia. William Blackwood, Edinburgh, 7(part 2):385–768.
- . 1814b. Crustaceology. Appendix. Pp. 429–434 in D. Brewster, ed., The Edinburgh Encyclopaedia. William Blackwood, Edinburgh, 7(part 2):385–768.
- Ledoyer, M. 1978. Amphipodes gammariens (Crustacea) des biotopes cavitaires organogenes recifaux de l’Ile Maurice (Ocean Indien).—The Mauritius Institute Bulletin 8:197–332.
- Lincoln, R. 1979. British marine Amphipoda: Gammaridea. British Museum (Natural History), London, 658 pp.
- Ruffo, S. 1946. Studi sui crostacei Anfipodi XI. Gli Anfipodi bentonici de Rovigno d’Istria (Nota preventiva).—Bollettino Societa Entomologia Italiana 76(7–8):49–56.
- , & G. Schickel. 1967. Nota su tre interessanti specie di Crostacei Anfipodi Mediterranei.—Memorie del Museo Civico di Storia Naturale (Verona) 15:85–95.